



R/Rstudio installation and overview

Install R

- Go to <https://ftp.acc.umu.se/mirror/CRAN/>
- Download R specific to your operating system.
- Install the program.



CRAN
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About R

The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Install Rstudio

Google search results for 'rstudio'. The search bar shows 'rstudio' and the results include a link to 'RStudio: Home' with the URL 'https://www.rstudio.com/'. Below the search bar, there are several search results, including 'Download RStudio' which is highlighted with a red box. Other results include 'Frequently Asked Questions', 'TensorFlow for R', 'R Packages', and 'RStudio Webinars'.

Choose Your Version of RStudio

RStudio is a set of integrated tools designed to help you be more productive with R. It includes a console, syntax-highlighting editor that supports direct code execution, and a variety of robust tools for plotting, viewing history, debugging and managing your workspace. [Learn More about RStudio features.](#)



RStudio Desktop Open Source License	RStudio Desktop Commercial License	RStudio Server Open Source License	RStudio Server Pro Commercial License	RStudio Server Pro + RStudio Connect Commercial License
FREE	\$995 per year	FREE	\$9,995 per year	\$29,995 per year
DOWNLOAD <small>Learn More</small>	BUY <small>Learn More</small>	DOWNLOAD <small>Learn More</small>	DOWNLOAD <small>Learn More</small>	TALK <small>Learn More</small>

Installers for Supported Platforms

Installers	Size	Date	MD5
RStudio 1.1.463 - Windows Vista/7/8/10	85.8 MB	2018-10-29	58b3d796d8cf96fb8580c62f46ab64d4
RStudio 1.1.463 - Mac OS X 10.6+ (64-bit)	74.5 MB	2018-10-29	a79032ba4d7daaa86a8da01948278d94
RStudio 1.1.463 - Ubuntu 12.04-15.10/Debian 8 (32-bit)	89.3 MB	2018-10-29	8a6755fa9fae2bafce289df3358aaf63
RStudio 1.1.463 - Ubuntu 12.04-15.10/Debian 8 (64-bit)	97.4 MB	2018-10-29	bc50d6bd34926c1cc3ae4a209d67d649
RStudio 1.1.463 - Ubuntu 16.04+/Debian 9+ (64-bit)	65 MB	2018-10-29	cf659db18619cc78d1592fefaa7c753
RStudio 1.1.463 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (32-bit)	88.1 MB	2018-10-29	742f0bad60dfeaa3281576e14ad6699e
RStudio 1.1.463 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (64-bit)	90.6 MB	2018-10-29	c7303067a0ca99deea7e427b856952d1

Rstudio overview

The screenshot shows the RStudio interface with the following components:

- Console:** Displays the R version (3.5.0), copyright information, and a list of useful commands like `license()`, `demo()`, and `help.start()`.
- Environment/History:** Shows the current environment (Global Environment) and a list of commands executed during the session.
- Files/Plots/Packages/Help/Viewer:** A sidebar containing a file explorer, plot viewer, package manager, and help viewer.

Callout boxes provide additional context:

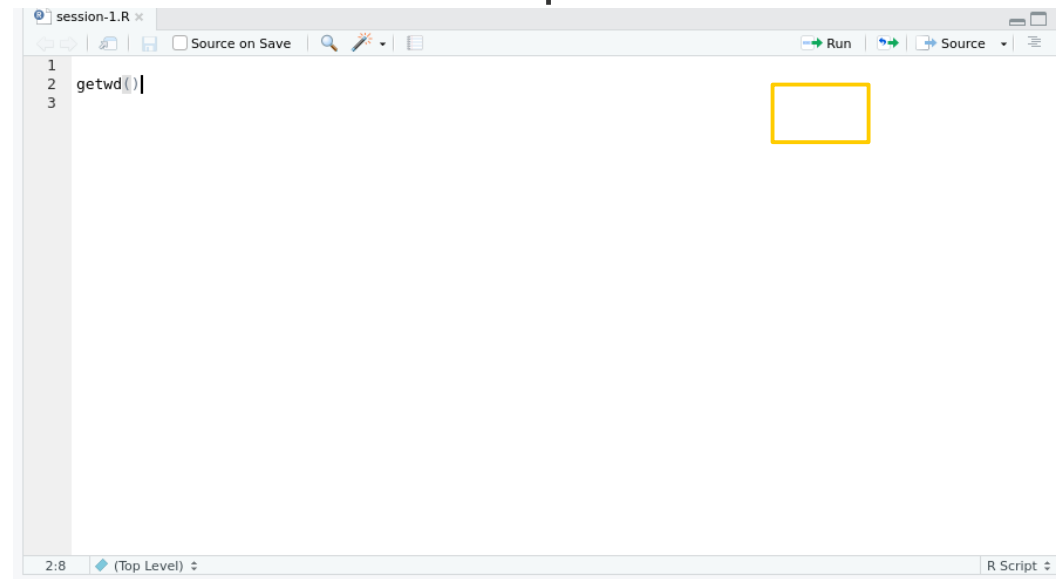
- R console:** For running R command/syntax interactively
- Environment:** list of variables created during a session
- History:** List of commands/syntaxes executed during a session
- Files:** File explorer
- Plots:** Plot viewer
- Packages:** For installing, loading, unloading and remove packages.
- Help:** For viewing a function documentation.

Rstudio – coding

- Make a folder in your desktop “*R-course*” without quotes.
- In Rstudio go to **File** → **New File** → **R script**. It will open an editor.
- Save the file as “session-1.R” in previously created folder.
- In Rstudio go to **Session** → **Set Working Directory** → **To Source File Location**. This will set *R-course* directory as a working directory for Rstudio.
- You can check current working directory in R console (in Rstudio) by executing “*getwd()*” without quotes.

Rstudio – executing a piece of code

- To execute a line of code in Rstudio, put the cursor in a desired line and press *Ctrl+Enter*.
- To execute multiple lines, select all the lines and press *Ctrl+Enter*.
- You can do the same thing by clicking “Run” icon which is on the left of the editor window.
- An output of a executed syntax/code can be seen in Console window.





Session 1 code

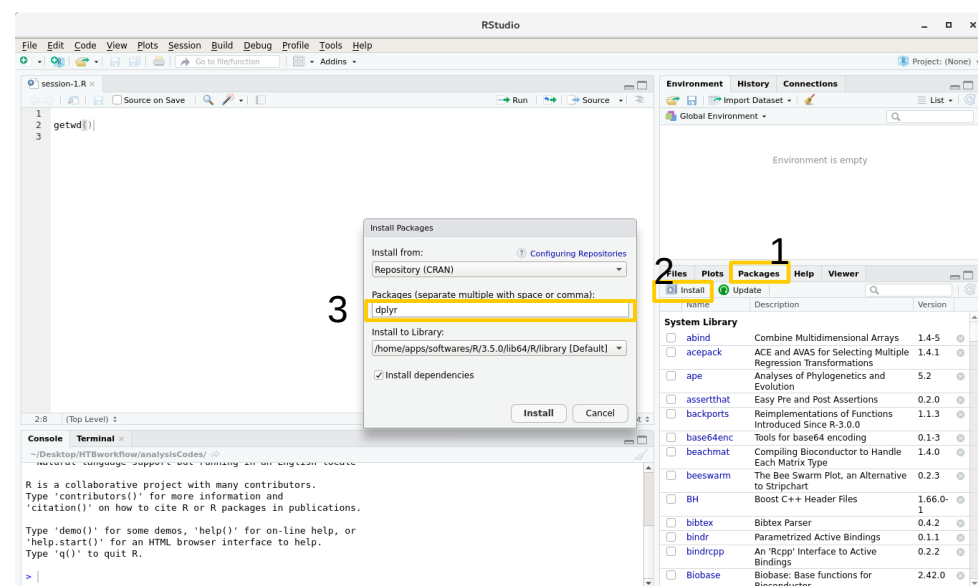
- Now, you can copy and paste session-1 course material and practice.
- **NOTE:** You do have to install any packages to run codes from session-1 course material.

Rstudio – installing packages

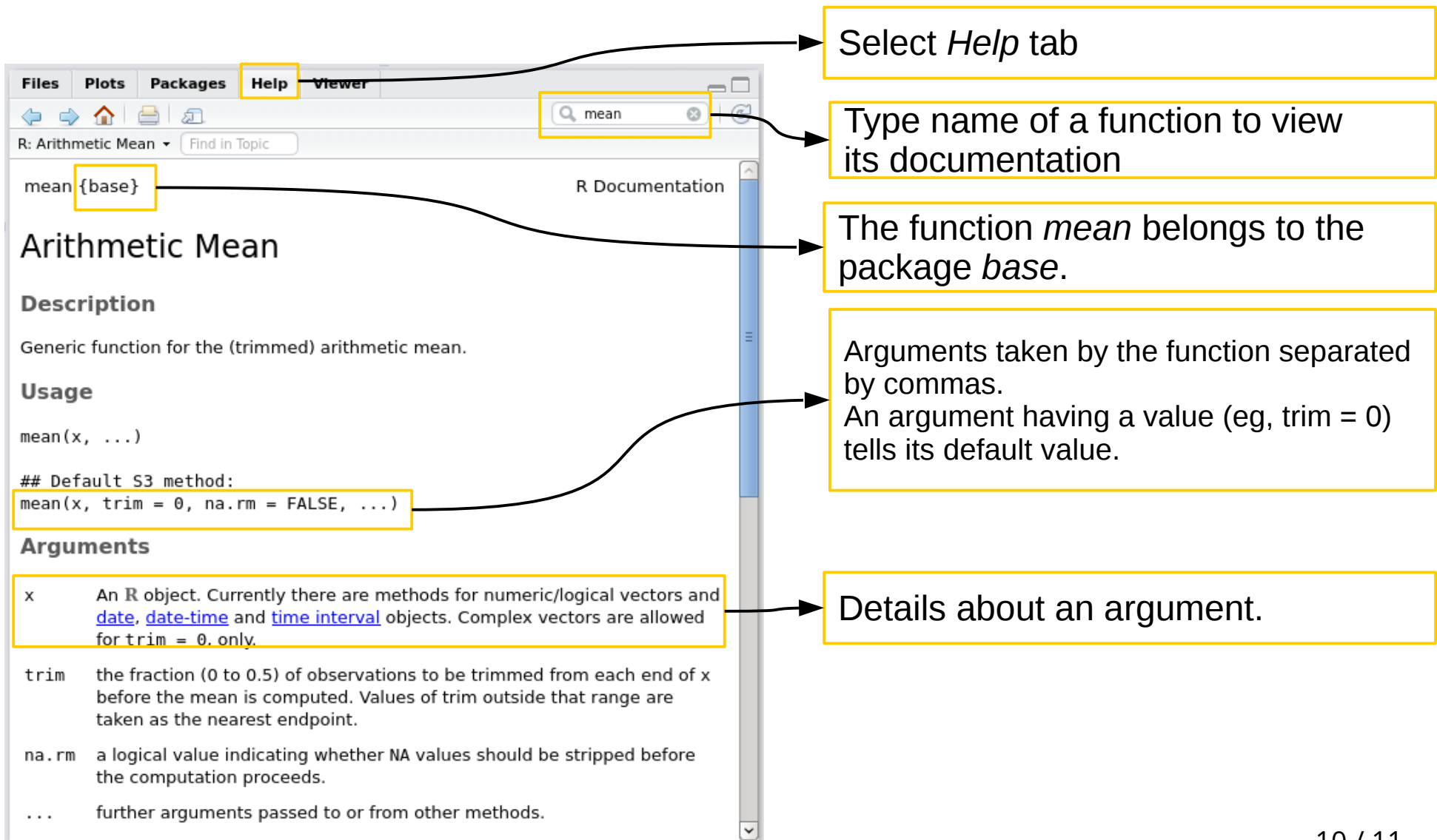
- There are two ways to install packages.
 - Via console
 - Via graphical user interface
- In console `install.packages()` function installs a give package or packages. For example
 - `install.packages("ggplot2")`
 - `Install.packages(c("dplyr", "plotly"))`

Rstudio – installing packages

- Package installation can also be done using Rstudio's interface.
- Click **Packages** tab and then **Install**. Provide package names in the dialogue box.



Rstudio - Getting help



The screenshot shows the RStudio interface with the Help tab selected. The search bar contains the text 'mean'. The Help window displays the documentation for the 'mean' function from the 'base' package. Annotations with arrows point to various parts of the interface and the documentation text.

Select *Help* tab

Type name of a function to view its documentation

The function *mean* belongs to the package *base*.

Arguments taken by the function separated by commas.
An argument having a value (eg, trim = 0) tells its default value.

mean {base}

Arithmetic Mean

Description

Generic function for the (trimmed) arithmetic mean.

Usage

```
mean(x, ...)
```

Default S3 method:
mean(x, trim = 0, na.rm = FALSE, ...)

Arguments

x	An R object. Currently there are methods for numeric/logical vectors and date , date-time and time interval objects. Complex vectors are allowed for trim = 0. only.
trim	the fraction (0 to 0.5) of observations to be trimmed from each end of x before the mean is computed. Values of trim outside that range are taken as the nearest endpoint.
na.rm	a logical value indicating whether NA values should be stripped before the computation proceeds.
...	further arguments passed to or from other methods.

Details about an argument.

Rstudio - Getting help

Files Plots Packages Help Viewer

mean

R: Arithmetic Mean Find in Topic

the computation proceeds.

... further arguments passed to or from other methods.

Value

If `trim` is zero (the default), the arithmetic mean of the values in `x` is computed, as a numeric or complex vector of length one. If `x` is not logical (coerced to numeric), numeric (including integer) or complex, `NA_real_` is returned, with a warning.

If `trim` is non-zero, a symmetrically trimmed mean is computed with a fraction of `trim` observations deleted from each end before the mean is computed.

References

Becker, R. A., Chambers, J. M. and Wilks, A. R. (1988) *The New S Language*. Wadsworth & Brooks/Cole.

See Also

[weighted.mean](#), [mean.POSIXct](#), [colMeans](#) for row and column means.

Examples

```
x <- c(0:10, 50)
xm <- mean(x)
c(xm, mean(x, trim = 0.10))
```

[Package base version 3.4.1 [Index](#)]

Scroll down

Details of output given by a function

Example of the function use.

Link to view all function of the package.